OVERALL SPECIFICATIONS OF KIRLOSKAR GREEN SILENT GENSETS

Liquid Cooled KGPI- Genset

Genset Model	Engine Model	Prime Power rating at 0.8 PF (kVA)	Overall Canopy Dimensions with silencer length x width x height (mm)	Approx. Weight (with Canopy) KG
KG30WS-5	3R1040	25/30	2355 X1090 X 1915	1260
KG40WS-1	4R1040	40/45	2655X 1210X 2410	1520
KG50WS	4R1190	50	3100X1270X2100	1500
KG82.5WS-2	4R1040T	62.5	3210X 1110 X 2590	1930
KG82.5WS-2	4R1040TA	82.5	3210X 1110 X 2590	1950
KG100WS	4K1080TA	100	3210 X 1305 X 2670	2500
KG125WS-3	6R1080TA	125	3450 X 1300 X 2480	2700
KG160WS-2	6K1080TA	140	4015X 1505 X 2670	2500
KG160WS-2	6K1080TA	160	4015X 1505 X 2670	2600
KG160WS	6SL9088TA	160	4350 X 1850 X 2050	3720
KG250WS-1	6SL1500TA – I	180	4555 X 1890X 2800	3870
KG250WS-1	6SL1500TA – II	200	4555 X 1890X 2800	3950
KG250WS-1	6SL8800TA	250	4555 X 1890X 2800	4660
KG320WS-3	DV8-I	320	5700 X 2120 X 3445	6000
KG400WS-2	DV8	400	5700 X 2120 X 3445	6000
KG500WS-3	DV10	500	6200 X 2120 X 3440	6655
KG600WS-3	DV12	600	6660 X 2120 X 3598	7500
KG600WS-3	DV12	625	6660 X 2120 X 3598	7500

Air-cooled KGPI - Genset

Genset Model	Engine Model	Prime Power rating at 0.8 PF (kVA)	Overall Canopy Dimensions with silencer length x width x height (mm)	Approx. Weight (with Canopy) KG
SEKG6AS7	EA10	5	1610 X 825 X 1930	650
SEKG10AS5	EA16	7.5	2035 X 825X 1930	850
SEKG10AS5	EA16	10	2035 X 825X 1930	850
KG15AS1-C	HA294	15	1750 X 1215 X 2235	1220
KG25AS-C	HA394	25	1997 X 1185 X 1818	1350
KG35AS	HA494	30	2805 X 1225 X 1940	1440
KG35AS	HA494	35	2805 X 1225 X1940	1440
KG40AS	HA494TC	45	2805 X 1225 X1940	1580
KG50AS	HA694	55	3450 X 1320 X 1900	1870
KG70AS	HA694TC	70	3450 X 1320 X 1900	1920

Note :

 In view of continuous product updating and design changes, all above specifications and dimensions are subject to change without prior notice. Also refer to latest product catalogue for updates.

 For the site conditions other than standard operating conditions, consult Seller or Kirloskar's Area Office.

Sizing of KGPI Genset

To select the right generating set under a given set of circumstances, knowledge of generating set and its performance under various conditions is necessary. It is also equally necessary to understand load characteristics and to make a load analysis. Beyond that, the effect of the voltage regulation systems plays an important role.

It is better to select a slightly larger generator capacity than the available load; the reason is that additional uses are invariably observed after it has been installed. These are usually not predictable. By having a margin available it is possible to power some loads which may have been overlooked during Genset selection, or which may be added after the installation of the Genset.

Ratings

The rating of an alternator is expressed either in kilowatt (kW) or kVA. The relation between kW and kVA rating is kW = kVA x Power Factor

kW = 1.732 x V x A x Power Factor (for 3 phase alternator) / 1000
kW = V x A x Power Factor (for a single phase alternator) / 1000

Where V = Line voltage; A = Line current

Load variation between phases should not be more than 10% and min 50% load should be available at the time of commissioning.

Power Factor

The power factor of electrical system depends upon the nature of characteristics of load e.g Induction motors, Furnaces, thyristor, power electronics etc. Power Factor is lagging for inductive load. Power Factor is leading for capacitive load. Power factor is unity for purely resistive loads. Normally, a generator is designed for a power factor of 0.8 The table below gives power factors of non-motor loads.

Type of load	**Power Factor**
Incandescent lights	1.00
Heating elements, ovens	1.00
Fluorescent lights	0.90
Induction furnaces	0.60 - 0.70
Arc furnaces	0.80 - 0.90
Welding Set Transformer)	0.60
Welding Set (AC Motor-DC Generator)	0.80 - 0.90
Transformers	0.80-0.95

- Load variation between phases should not be more than 10%.
- KVA x 1.39 = AMP per Phase for III phase gen set & KVA X 1.39 x 3 AMP for I phase gen set at 100% load . Minimum 50% of AMPs per phase is required at the time of commissioning.

Deration Factor
The engine's horse power as mentioned on its name plate is the HP which an engine can deliver in MSL at NTP conditions. HP delivered at site will vary depending on site conditions (deration due to altitude, temperature and humidity). For details of site derations please consult Seller or Kirloskar's Area Office.

Input HP (Metric) = . kW / 0.736 x Alternator Efficiency

Load Calculation

Steps to be followed while sizing the Genset.

Step 1:
Collect all necessary basic data of load. Tabulate the details such as lighting load, motor load, A/C load, Heaters load etc with quantity and name plate details.
For motor loads, mention starting method also, i.e. Type of starter used.

Step 2 :
(Applicable For Three Phase Genset)
Convert all single phase loads to three phase loads by distributing equally on three phases.

Step 3:
Starting power (kVA) of each equipment is based on type of starting method.
For eg, In case of motors,
- Starting by DOL will pull up to 6 to 7 times the rated full load kW of a motor.
- Star/Delta will pull up to 2 to 3 times the full load kW of the motor.
- Soft Start will pull up to 1.2 to 1.5 times the full load kW of the motor.

Rectifier loads may also pull up to 50% above their rated KVA.

Step 4:
Sum up all the steady state running loads in kVA and sum up all the starting kVA's. These two figures will be used to size up the Genset and sequence of loading.

Step 5:
Determine the maximum allowable voltage dip which the Genset should experience when the total starting KVA is applied on this Genset. This voltage dip percentage is usually known to the customer based on equipment type to be powered.

Step 6:
The previously obtained figures (Running KVA, Starting KVA, Voltage, Voltage Dip, Loading sequence) will decide Genset size.

Installing KGPI Genset:

Location

Dust and Fumes are the greatest danger to generating set as they could lead to clogging of cooling and air system which may affect Genset performance.

1. If KGPI Genset to be installed in free field condition, please ensure dust free location and clear space of 2 times of height of Genset.

2. If KGPI Genset to be installed in the room, please ensure proper cross ventilation, clear space of minimum 3 meters from all sides.

3. If KGPI Genset to be installed on Roof Top, please ensure Structural clearance, proper cross ventilation with respect to wind direction, clear space of minimum 3 meters from all sides.

4. If KGPI Genset to be installed in basement, ensure ventilation with respect to Air requirement and clear space for easy maintenance.

Layout

 Allow easy accessibility to Genset for easy operation and maintenance.

 Locate the Genset considering the prevailing wind direction.

 Genset installation should be as close as possible to the load. However in some cases, like stone crusher plant, garment plant, cement factory, paint factory, chemical factory, etc. the Genset should be isolated from the dust, hazardous and chemical fumes contained in the surrounding air.

 In case, Genset is to be installed in heavy dusty conditions, it is recommended to use heavy duty air cleaners (Please contact Seller or KOEL Area office for further guidelines).

 For fuel supply and fuel storage arrangement for Genset, follow the local rules and regulations.
    o The environment protections

- The fire protection

 In case of high humid atmospheric conditions, an anti condensation heaters should be used for the alternator.

 A rooftop installation requires proper planning and the structural design considerations for dynamic loading.

 Proper consideration should be given to take exhaust gases away from Genset location and shielded for hot surface.

 Noise

- There should be sufficient space around the Genset to avoid resonance and echo effect which contributes to abnormal sound from Genset.
- The space should be open without any obstacles.

Ventilation

 Cross ventilation and free flow of cool, clean and fresh air should flow to the Genset.

 The space should be open without any obstacles.

 For room and basement installations, supply of fresh air and removal of hot air should be done through forced ventilation with suitable air ducts.

 Refer to table for values of air requirement for various Gensets rated at 1500 rpm. Values mentioned in table are with lagged exhaust piping in the room and silencer fitted outside the room.

 Maximum allowed temperature rise above ambient in Genset Enclosure at air intake of engine is 7 deg centigrade.

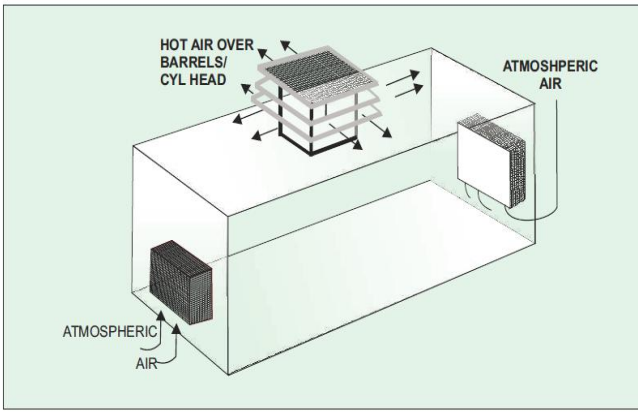


FIG. AIR COOLED GENSET

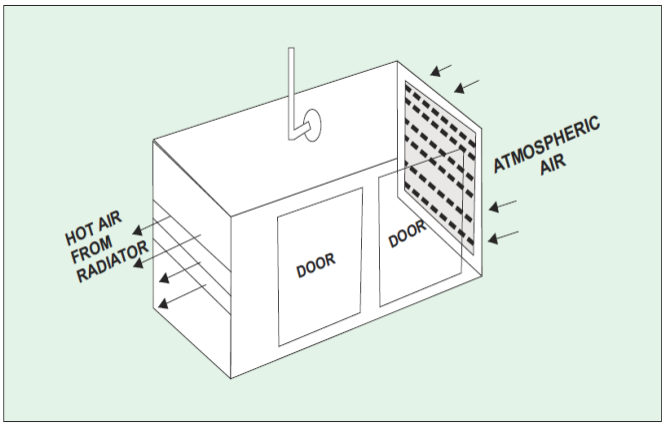


FIG. WATER COOLED GENSET

Foundation

Foundation is one of the important factor affecting the successful operation and life of a generating set. Improper foundation may result in alignment and vibration problems which may subsequently lead to pre-mature failure of Genset Components and Safety.

The basic functions of foundation are as below,

- To provide leveled platform to seat and seal the Genset.
- To support the weight of the entire generating set.
- Support the dynamic load of Genset while in running.
- Absorb the vibration produced by the rotating and reciprocating masses.
- Isolate the surrounding structures by absorbing the vibration of generating set while in running.

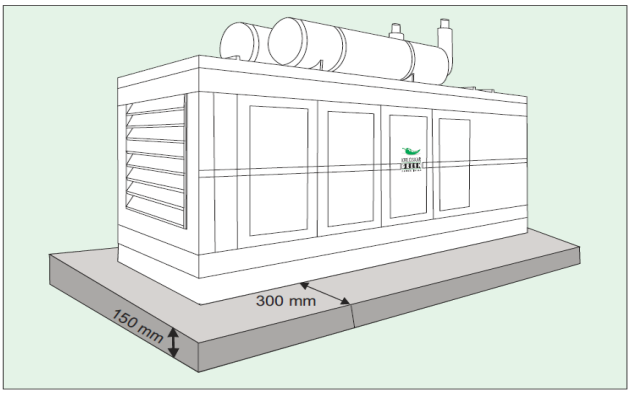


FIG. FOUNDATION OF GENSET

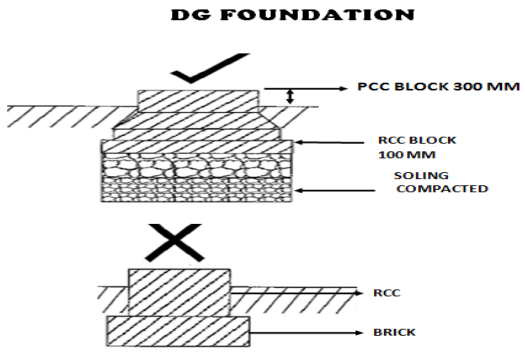


FIG. CORRECT & INCORRECT FOUNDATION

While casting the concrete foundation, the bearing strength of the soil at site of installation should be determined. The Table below gives the approximate safe bearing capacity of various soil.

Nature of the load bearing material	Safe bearing capacity kg/sq. meter
Hard Rock Granite	2,44,100 – 9,76,400
Medium Rock Shell	97,600 – 1,46,400
Hard Pan	78,100 – 97,600
Soft Rock	48,800 – 58,600
Hard Clay	39,000 – 48,800
Gravel and Corse Sand	39,000 – 48,800
Loose, Medium coarse and Compact fine sand	29,300 – 39,000
Medium Clay	19,500 – 39,000
Loose Fine Sand	9,750 – 39,500
Soft Clay	9,750

The length and width of foundation should be at least 300 mm more on each side than acoustic enclosure length and width respectively.

- It is recommended to have foundation height of 150 to 200 mm above ground level to maintain cleanliness and avoid flooding.

- Check the foundation level diagonally as well as across the length and width for even flatness and same should be within + 0.50 in horizontal plane in any one direction only.

- Ensure that the concrete is completely cured before positioning the enclosure.

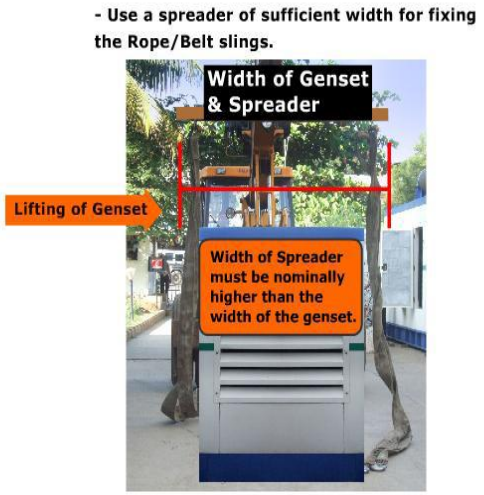
- Ensure that the foundation to support 1.5 times of the total wet weight of the single generating set installation and 2 times of the total wet weight for the multiple generating set installations.

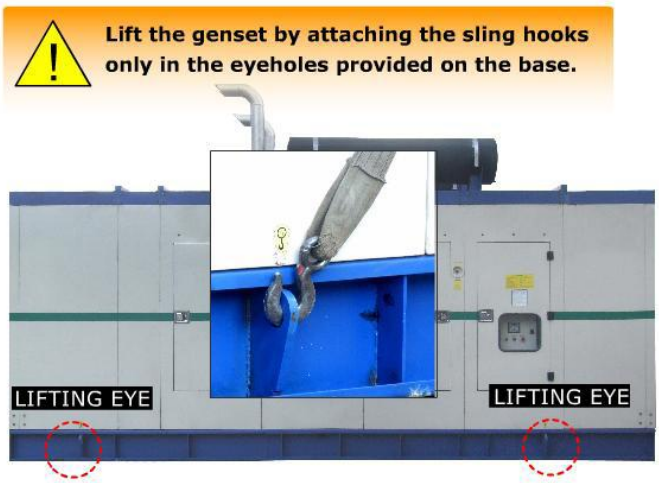
- For Rooftop installations, it is necessary to have planning and structural design approval.

- Do not install acoustic enclosure on loose sand or clay.

Avoid hard / sharp projections such as stone or steel parts on foundation surface, which may damage fuel tank at the bottom. Avoid uneven foundation which may lead to improper resting of Genset on foundation, there by leading to leakage of sound and vibration on Genset.

If Genset to be mounted on foundation having uneven surface under unavoidable circumstances, use appropriate thickness of Rubber Matting above foundation for positive sealing of Genset with base.


- Use a spreader of sufficient width for fixing the Rope/Belt slings.
Width of Genset & Spreader
Lifting of Genset
Width of Spreader must be nominally higher than the width of the genset.



 Unload the Genset only by crane, by lifting with proper lifting tackle/nylon sling/soft sling with spreader bar / spacer plate, of suitable capacity to avoid any damage of the D G set.

 Do not drag the Genset on floor/ground.

 Use lift points on the acoustic enclosure (Canopy) which provides support to the equipment when it is moved. This makes it easier to set them up on the foundation.

Exhaust System

Genset Exhaust system directs the hot flue gases into the atmosphere harmlessly.
On KGPI Genset, exhaust silencer and expansion bellow are the integral part of exhaust system. At the time of Genset installation, please ensure, proper alignment of exhaust silencer with respect to expansion bellow. If the canopy is required to dismantle, then utmost care is necessary at the time of re-assembling.

While taking exhaust gases away from Genset above stack height, please refer table below for selecting the size of exhaust pipe.

As per Statutory regulations, exhaust pipe has to be extended above the surrounding stack as below.

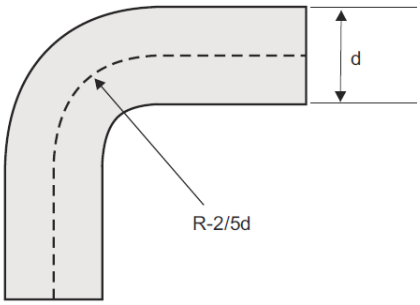
H = h + 0.2 x vKVA Where H = Minimum height of exhaust stack, h = height of building

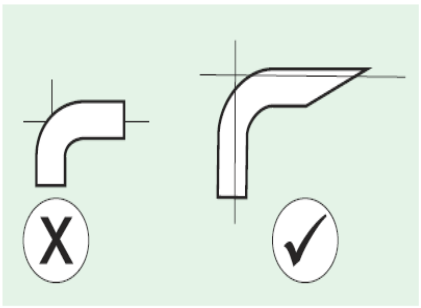
ENGINE MODEL (WATER COOLED)	MINIMUM PIPE INSIDE DIAMETER IN INCH
EW-SERIES	2.5"
RB-SERIES	2.5"
2R/3R/4R	2.5"
4RTA	3"
4K/6K	4"
6SL	5"
K	5"
DV	5"

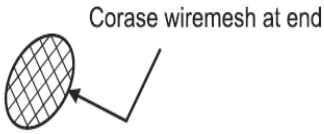
ENGINE MODEL (AIR COOLED)	MINIMUM PIPE INSIDE DIAMETER IN INCH
EA 10/16	2"
HA294/ 394/494	2.5"
HA694	3"

Note : If the extension of exhaust pipe is more than 5 meters above Genset, increase pipe dia by 0.5" for every 3 meters.

Exhaust bend







M S Bends used in exhaust piping should have a long smooth bend as shown in figure to ensure smooth flow of exhaust gases.
Exhaust Outlet should have 30® cut at the tail end with Coarse wire mesh.

Note :

- If No of bends are more than 4, increase the diameter of Exhaust Pipe and Bend by 0.5" for addition of each bend.
- The exhaust outlet should be in the direction of prevailing wind.

Rain Cap

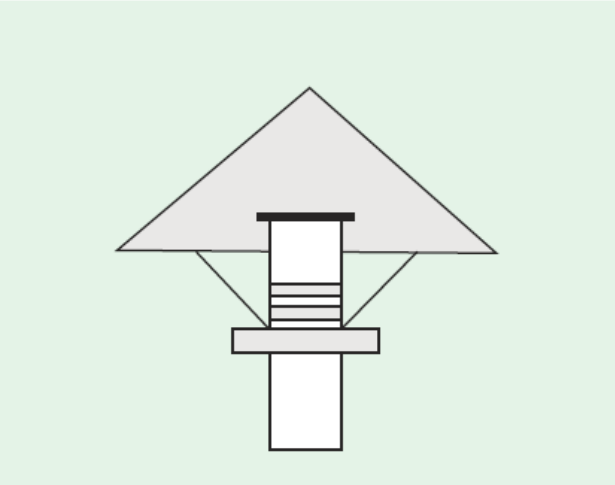


FIG. RAIN CAP WITH RAIN CAP

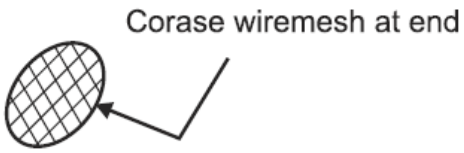


FIG. CORASE WIREMESH

If horizontal exhaust outlet as recommended above is not possible, provide a rain cap over exhaust pipe end as per the figure. The distance between exhaust pipe and rain cap should be higher than diameter of pipe (minimum 2.5D) with coarse wire mesh.

 It is also recommended that horizontal run of exhaust piping should slope downwards away from engine to the condensate trap. Silencer should be installed with drain plug at bottom.

Exhaust Support

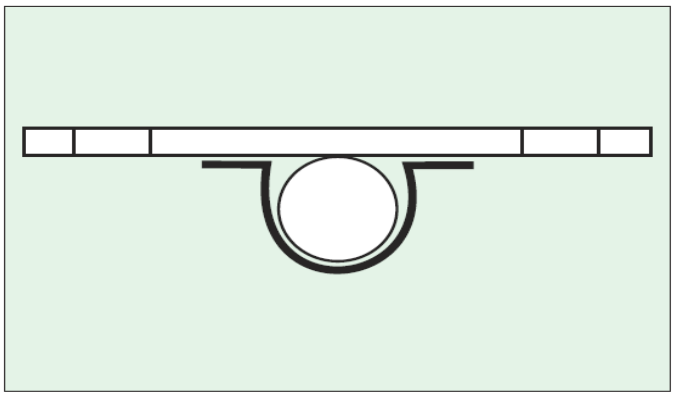


FIG. EXHAUSE PIPE SUPPORT

Proper support is required for the extended exhaust pipe above Genset to ensure no self weight is transferred on to the Genset.

Type of Exhaust Pipe

Use black MS Pipe, Galvanised Iron Pipes should not be used.

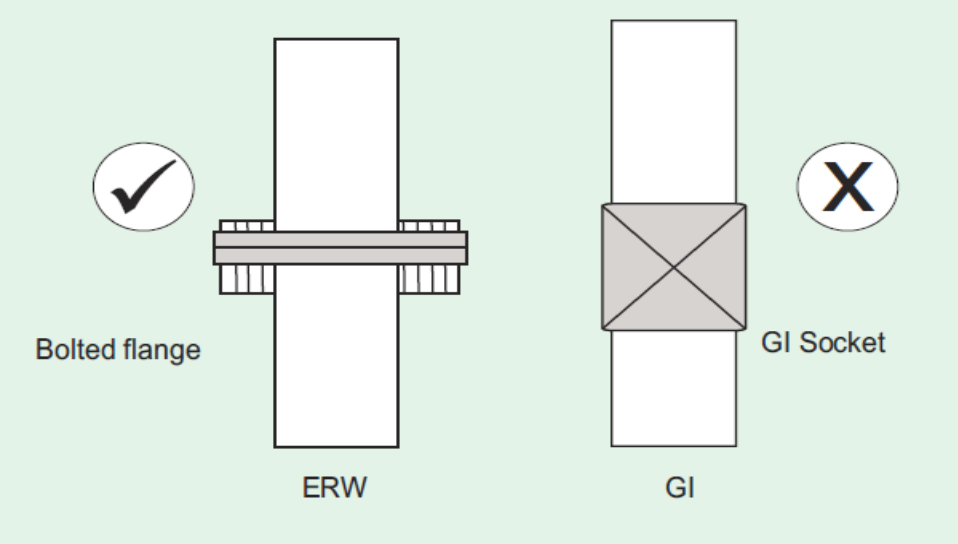


FIG. CORRECT & INCORRECT EXHAUST PIPE

Exhaust Pipes should be joined through flanges.

Exhaust pipe throughout should be cladded by mineral wool with aluminium sheet. Minimum thickness of cladding should be 50 mm.

Cooling System

Liquid Cooled Engine

Kirloskar Liquid Cooled Engines use solid cooling system for removal of heat generated in the engine due to internal combustion and to maintain optimum operating temperature for efficient engine operation.
KGPI Genset – Liquid Cooled are delivered with initial fill of Pre-mixed Coolant “K-Cool Super Plus”.

Ensure NO addition of Water in Coolant.
 Ensure 'Top Up' only with "K-Cool Super Plus" coolant.
 Ensure coolant level in Compensation Tank between "Min and Max" Level.

Air Cooled Engine
Kirloskar Air Cooled Engines use Air as a cooling media for removal of heat generated in the engine through cooling passages and to maintain optimum operating temperature for efficient engine operation.
 Ensure cleanliness of cooling air passages.

Lub Oil System
Kirloskar engines utilize the pressure lubrication system with the lub oil filter adequately designed to handle the flow of lubricating oil at the designed pressure and temperature for Lubrication, Cooling and Cleaning of internal components.

KGPI Gensets are delivered with initial fill of Lub Oil "K-Oil Super Plus".

 Check the Lub Oil level with the help of Dipstick to "H" Mark and top up if required with "K-Oil Super Plus" only.

K-Oil Super SAE 15W 40 is a specially blended engine oil which ensures:

 Increased change intervals.

 Better oxidation stability and hence less top-ups.

 Reduced Frictional wear.

 Increased internal cooling.

 Protection against Rust and Corrosion.

 Reduced carbon deposits.

Use of the wrong grade of oil could lead to :

- Overheating of the engine.

- Sluggish performance.

- Excessive Fuel Consumption

- Increase Wear of Bearings and Other moving components.

Fuel System

The fuel (High Speed Diesel) should comply with the following International Standards.

DIN 51601
IS : 1460 1995
ASTM D 975-81 : 1D & 2D

- Ensure fuel filling point is accessible and clean all the time.
- Ensure all fuel piping is leak free.
- Avoid fuel spillage.
- Ensure fuel dilution does not occur.
- Care should be taken while filling of tank to prevent ingress of dust & moisture inside diesel tank.
- It is recommended to fill fuel after stopping of the Genset to avoid condensation.

- It is recommended not to fill Fuel during running of Genset.

Electrical System

Earthing

Any leakages in current will be earthed through the shortest route in the link.
KGPI Genset should be connected to earth in accordance to local regulations.
The size of the link used for the main earth connection should be of adequate size as shown below table.

The generating set and all associated equipment must be earthed before the set is put into operation.
4 numbers of earth pits are required as per Indian Electricity rules / local electricity regulations.
- 2 earthing pits for Genset / control panel body

- 2 earthing pits for neutral.

Resistance between 2 earth pits should be more than 5 Ω.

EARTHING WIRE & STRIP SIZE KVA	**Recommended Earth Strip/ Cable**
5 -82.5 KVA	8SWG-COPPER / 25 x 3mm GI
100-250 KVA	25 X 3mm COPPER / 25 X 6mm GI
320 – 625 KVA	50 X 6mm COPPER

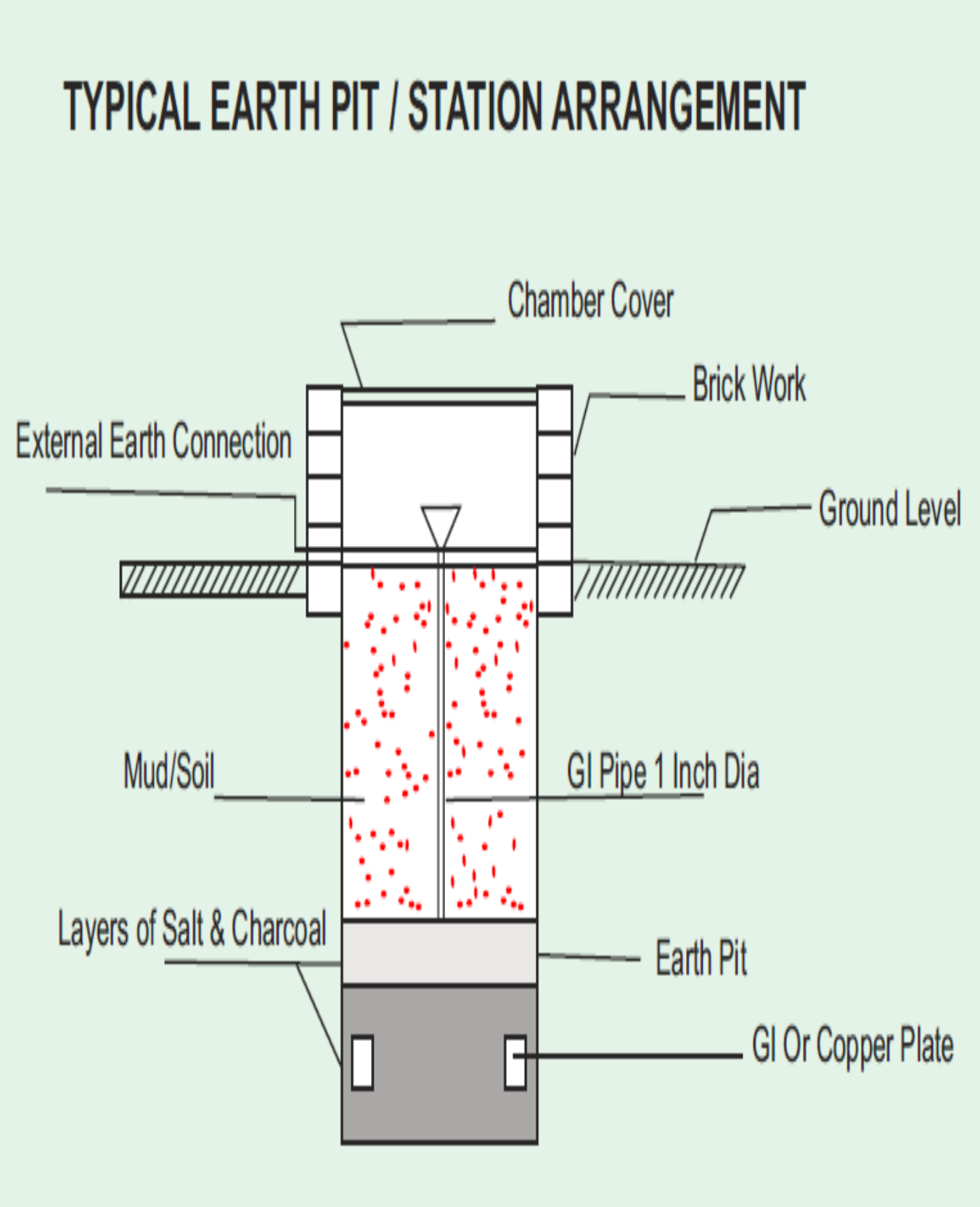


FIG. EARTH PIT

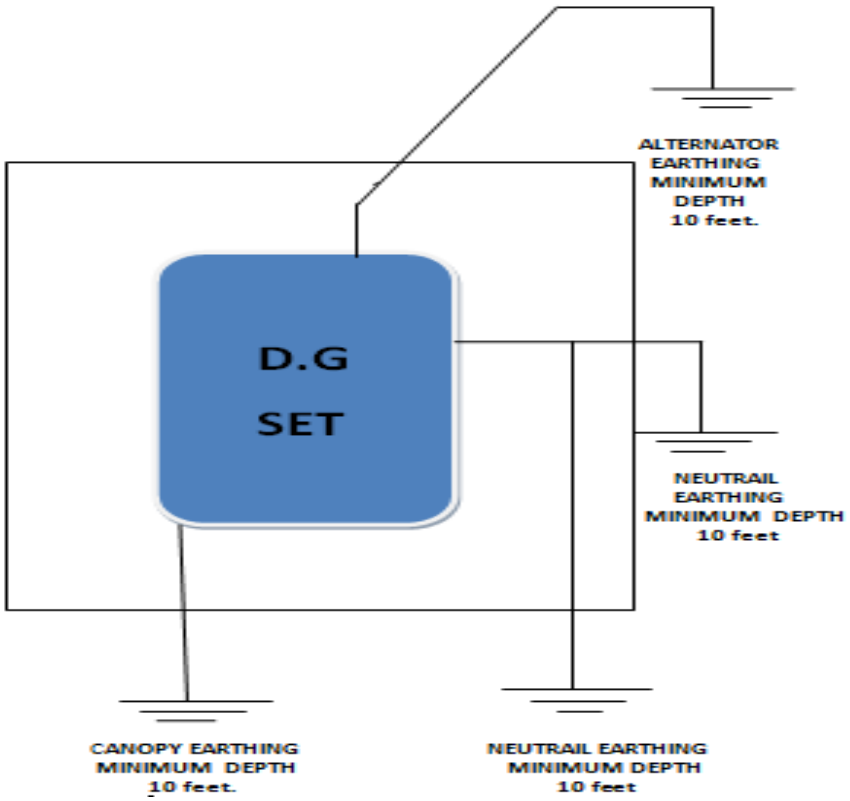


FIG. 4 NOS EARTHING ARRANGEMENT

Power Cable

Cabling from Alternator to Panel should be done with proper size of cable and lugs. Typical cable sizes are provided in the tables which are indicative. Please refer to cable manufactures for details.

 Ensure tight crimping / terminations to avoid overheating and burning of the cable and terminals.

 Ensure correct size of glands and gland plates are used to avoid tension on alternator terminal, terminal box and control panel terminations.

 Ensure phase colour coding is adopted while terminating cables at both the ends of Alternator and Control Panel.

 Ensure proper Bending radius is given to the cable to avoid excessive tension on cable termination.

 For extended control cabling, use 10/12 core 2.5 sq mm of armoured copper cable.

 Any type of control and monitoring cables should be sheathed and should be within 5 meters length for accurate performance.

 Ensure that the weight of cables does not rest on alternator terminations. Proper support to be provided from the ground separately through cable tray.

Typical cable sizes for KGPI Genset

3-Phase Genset

GENSET RATING	AMP RATING @0.8 PF (App.)	CABLE SIZES IN SQ MM	
		COPPER MULTISTRAND	ALLUMINIUM
5	7	4	6
10	14	4	6
15	21	4	6
20	28	6	10
25	35	10	16
30	42	10	16
40	56	16	25
45	63	16	25
50	70	25	35
62.5	87	35	50
82.5	115	50	70
100	139	70	95
125	174	95	150
140	195	95	185
160	223	120	240
180	250	120	240
200	278	150	300
250	348	150	300
320	445	120+95	240+185
400	556	150+150	300+300
500	695.62	185 x2	240 x 3
625	869.52	400	300 x 3

1-Phase Genset

GENSET RATING	AMP RATING @0.8 PF	CABLE SIZES IN SQ MM	
		COPPER MULTISTRAND	ALLUMINIUM
5	20.83	6	10
10	41.66	10	16
15	62.5	16	25
20	83.33	35	50
25	104.16	35	50
30	125	50	70
40	166.66	70	95
50	208.33	95	150

BATTERY

WATER COOLED GENSET

SL. NO.	KVA RATING	ENGINE MODEL	BATTERY RATING IN AMPS.
1	5,6	EA10	88
2	7.5/10	EA16	88
3	20	2R	88
4	25	3R	88
5	30	3R	88
6	45	4R	88
7	50	4R	120
8	62.5	4RT	135
9	75/82.5	4RTA	135
10	100/125	4K	135
11	125	6RTA	180
12	140/160	6K	180
13	180/200/250	6SL	180x2
14	275/320/400	DV	180x2
15	500/600/625	DV	180x2

AIR COOLED GENSET

SL. NO.	KVA RATING	ENGINE MODEL	BATTERY RATING IN AMPS.
1	12.5/15	HA294	88
2	20/25	HA394	88
3	30/35	HA494	120
4	40/45	HA494TC	120
5	50/55	HA694	180
6	63/70	HA694TC	180

Ensure that the polarity of the battery connections are correct before switching on the DC controls.

 Never attempt to start the Genset if battery charge is insufficient to start the engine. Get the battery charged or replaced and then try to start.

 During installation and maintenance, disconnect the battery.

 For prolonged storage, used static battery charger to keep battery fully charged.

Before Starting the New KGPI Genset

 Ensure intactness of all external fasteners, hose clamps, V-belt tension as per specifications.
 Ensure Cleanliness of the Genset.

Lubrication :
- Check Lub oil level with help of Dipstick and if require Topup up to H-Mark with “K-Oil Super”.

Fuel :
- Ensure fuel tank is clean from inside.
- Fill fuel tank with clean High Speed Diesel.
- Bleed the fuel system as shown in maintenance manual.

Cooling :
Liquid cooled engine.
- Check Coolant level inside Radiator and Compensatory tank. If required Topup with “K-Cool Super Plus”.

Air Cooled Enignes.
- Check Blower Fan belt tension.
- Check hot air exhaust fan is working properly.

Electrical:
- Check Battery Polarity.
- Check Battery cables are correctly connected and secured.
- Check all other electrical connections and intactness.
- Ensure Emergency Push Button in released condition.
- Ensure Load Change over Switch / Breaker in off condition.

Starting and Stopping of KGPI Genset

Procedure: Starting KGPI Genset
Before Starting
- Clean the Genset with dry cloth.
- Check the lub oil, coolant and fuel levels – Top up if required as per recommendation given.
- Check for V-belt, Hoses and external leakage if any.
- Ensure Load change over switch / Breaker in Off condition.

Starting
- For Key Starting

Do not crank engine for more than 5 second. As soon as engine fires, release the start key. Leave ignition switch in "ON" position.
- For Push Button Starting

Gently press starts button once and release.
- If engine fails to start, wait for a minute and try again.
- Check for leakages if any.
- Allow the engine to idle for 3 minutes and then start loading the Genset gradually in steps.
- Check for Engine parameters like Oil Pressure, Coolant Temp and Battery charging rate at regular intervals while the Genset in operation and maintain log book.
- Check for Exhaust Smoke.
- Check for Abnormal Noise if any.
- Check for A C Alternator parameters like Voltage, Ampere, KW, PF on all phases.
- Ensure load is balanced in all phases as per recommendation and within rated output of Genset.
- Check for all gauges and meters provided in Control Panel are working.

Procedure: Stopping KGPI Genset

Before Stopping
- Remove the load from Genset and let it run for about 3 minutes.
- For Key Start

Put Ignition key in "Off" condition.
- For Push Button Start

Push Stop button gently once and release.
After Stopping
- Put Load Change Over Switch in "OFF" position.
- Check for leakages if any.
- Top Up the Fuel Tank.
- Ensure Proper closing of Genset Enclosure.

Maintenance Tips

First oil change @ 50 hrs or 3 months of commissioning. For details refer user manual.

Cleaning and Preservation of KGPI Genset

Remove dust deposit from the Cylinder heads, Liners fins, lub oil cooler fins, Radiator and A C Alternator with compressed air. Cleaning with diesel fuel or kerosene may cause dust to deposit again on the cleaned parts.
Open the Air duct while cleaning of Air Cooled Engine.
Cleaning should be done from the opposite side of the system air flow.

When deposits are hard, scrape and clean with a water jet. Run the engine after such cleaning till all the water evaporates.
When the Genset is kept idle for more than 6 months, it is advisable to protect it from atmospheric moisture, condensates, internal corrosions and rodents

Recommended Preservatives: **Manufacturer**	**Engine lub oil and Fuel system**	**Engine cooling system for liquid cooled**	**Unpainted ferrous metal parts**
Bharat petroleum	Bharat Preserve oil 30	Bharat Sherol B Emulsion with water ratio 1:20	Bharat Rustrol 152
Hindustan petroleum	Autoprun T120	Koolkit 40.5%Emulsion with water	Rustop 274
Indian oil corporation	Servo Preserve 30 OR Servo 'Run-N' Oil 30	Servo Cut S 20% Emulsion with water	Servo RP 125
Castrol India	-	-	Russtilo DW 904 OR DW901
Veedol tide water oil co.	Veedol 30/40	Veedol Amulkut 4 Emulsion with water in ratio 1:15	Veedol Rustop IT

Alternatively 'Surprabha VCL 302' of Suprabha products can be used in engine cooling System.
For preservation and re-commissioning contact seller.

After Sales Service Guidelines

- The after sales service to KGPI Genset is provided through KOEL's Country-wide network of authorized spare and service dealers. For information about KOEL's Authorized Dealers, please contact either the supplier of KGPI Genset or nearest KOEL Area office.
- Before commissioning the KGPI Genset, please go through the contents of the warranty booklet.
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YOU ARE ENTITLED TO RECEIVE THE FOLLOWING ENGINE RELATED DOCUMENTS FROM KGPI GENSET SUPPLIER.
- Warranty Booklet
- User manual- Hard copy/ Soft copy
- Maintenance manual- Hard copy/ Soft copy